

REMARKS

Claim 1 has been amended to incorporate recitations from dependent claims, as well as based on the disclosure in paragraph [0053] on page 5 of the publication of the present application (see the top of page 11 of the application as filed). Claims 2 and 5-8 have been canceled accordingly. Claims 3 and 9 have been amended to make editorial changes.

Entry of the above amendment is respectfully requested.

Rejection of Claim 2 under 35 U.S.C. 112, Second Paragraph

On page 3 of the Office Action, in paragraph 4, claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

In particular, the Examiner indicates that claim 2 recites the limitation “photopolymerizable group” according to claim 1, but there is insufficient antecedent basis for this limitation in the claim 1.

In response, Applicant has canceled claim 2, so this rejection is moot. Further, Applicant notes that amended claim 1 does not include the limitation “photopolymerizable group”, so this issue does not arise with respect to amended claim 1.

Accordingly, withdrawal of this rejection is respectfully requested.

Objection to Claim 2

On page 3 of the Office Action, in paragraph 5, the Examiner has objected to claim 2 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

In particular, the Examiner indicates that the recited “photopolymerizable group” in claim 2 is much broader than the “photochemically isomerizable or dimerizable molecule” expressed in claim 1.

In response, Applicant has canceled claim 2, so this objection is moot. Further, Applicant notes that amended claim 1 does not include the limitation “photopolymerizable group”, so this issue does not arise with respect to amended claim 1.

Accordingly, withdrawal of this objection is respectfully requested.

Obviousness Rejection

On page 4 of the Office Action, in paragraph 7, claims 1-9 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herr et al. (US-427) or Gibbons et al. (US-404) or Herr et al. of US-087 (applicable to claims 1, 3, and 5-9).

In response, Applicant notes initially that claim 1 has been amended as set forth above, including reciting that the sensitizer Y is ketocoumarin, carbonylbiscoumarin, or benzophenone.

Applicant submits that neither US 6,919,404 to Gibbons nor US 6,201,087 and US 6,107,427 to Herr disclose a ketocoumarin, carbonylbiscoumarin or benzophenone group-containing polymer or composition.

Applicant notes that Gibbons describes polymers containing *inter alia* naphthalene, and Herr describes polymers comprising *inter alia* coumarin or quinoline. However, Applicant submits that there is no teaching in Herr or Gibbons that these coumarin, naphthalene or quinoline groups could be used as sensitizers. Moreover, even if a skilled person would do so, he would not arrive to the present invention because the present invention encompasses copolymers comprising ketocoumarin, carbonylbiscoumarin and benzophenone groups.

Applicant submits that there is also no teaching in Herr or Gibbons that these coumarin, naphthalene or quinoline groups should be replaced by the sensitizer groups of the invention.

Therefore, Applicant submits that it is very surprising that in the present invention it was found that copolymers having these sensitizers incorporated in their structure dramatically lower the required amount of energy for conducting the photochemical reaction of these copolymers.

In this regard, Table 1 on page 15 of the publication of the present application shows how the energy amount is decreased by using the copolymers of the invention instead of a coumarin sensitizer:

comparison examples 1, 2 and 3 contain a coumarin sensitizer in a composition not bonded to the polymer,

whereas the copolymers of the invention D1 to D14 having ketocoumarin and carbonylbiscoumarin sensitizers are bonded to the polymer,

the comparison examples needed energy of 80, 300, and 800 mJ/cm², whereas with the copolymers of the invention D2, D3, D5, D6, D7, D8, D9, D10, D11, D12, D13, and D14, mainly low energy amounts of 40 to 80 mJ/cm² and only in two cases higher amounts of 160 mJ/cm² (D4) and 400 mJ/cm² (D1) were needed. In no case is the high amount of 800 mJ/cm² needed.

Applicant submits that these results confirm the inventive concept of the invention.

Further, Applicant submits that this lowering of energy amount could not have been foreseen starting with the teaching of Gibbons or Herr.

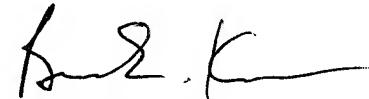
Hence, Applicant submits that the present invention is not obvious over the teachings of these references, and withdrawal of the rejection is respectfully requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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